In the Claims

1. (Previously presented) A polypeptide comprising

(i) a leader sequence, the leader sequence comprising

(a) a secretion pre sequence, and

(b) the following motif:

$-X_1-X_2-X_3-X_4-X_5-$

where X_1 is phenylalanine, tryptophan, or tyrosine, X_2 is isoleucine, leucine, valine, alanine or methionine, X_3 is leucine, valine, alanine or methionine, X_4 is serine or threonine and X_5 is isoleucine, valine, alanine or methionine (SEQ ID NO: 1); and

(ii) a mature desired protein.

2. (Previously presented) A polypeptide according to Claim 1 wherein X_1 is phenylalanine (SEQ ID NO: 2).

3. (Previously presented) A polypeptide according to Claim 1 wherein X_2 is isoleucine (SEQ ID NO: 3).

4. (Previously presented) A polypeptide according to Claim 1 wherein X_3 is valine (SEQ ID NO: 4).

5. (Previously presented) A polypeptide according to Claim 1 wherein the amino acids of the motif are included in the polypeptide as substitutes, for naturally occurring amino acids.

6. (Previously presented) A polypeptide according to Claim 1 wherein X_5 is isoleucine (SEQ ID NO: 6).

7. (Previously presented) A polypeptide according to Claim 1 wherein the motif is -Phe-Ile-Val-Ser-Ile- (SEQ ID NO: 7).

8. (Currently amended) A polypeptide according to Claim 1 wherein the secretion pre sequence is an albumin secretion pre sequence or a variant thereof, wherein, other than the motif, the variant has at least 9 identical amino acids to the albumin secretion pre sequence.

9. (Previously presented) A polypeptide according to Claim 8 wherein X_1, X_2, X_3, X_4 and X_5 are at positions -20, -19, -18, -17 and -16, respectively, in place of the naturally occurring amino acids at those positions, wherein the numbering is such that the-1 residue is the C-terminal amino acid of the native albumin secretion pro sequence and where X_1, X_2, X_3, X_4 and X_5 are amino acids as defined in Claim 1.

10. (Previously presented) A polypeptide according to Claim 9 wherein the albumin secretion pre sequence or variant thereof is a human albumin secretion pre sequence or a variant thereof.

11. (Previously presented) A polypeptide according to Claim 10 comprising the secretion pre sequence MKWVFIVSILFLFSSAYS (SEQ ID NO: 28).

12. (Withdrawn) A polypeptide according to Claim 1 wherein the leader sequence comprises a secretion pro sequence.

13. (Withdrawn) A polypeptide according to Claim 12 wherein the secretion pre sequence or variant thereof is fused by a peptide bond at its C-terminal end to the N-terminal amino acid of a secretion pro sequence, or variant thereof, thereby to form a pre-pro sequence.

14. (Withdrawn) A polypeptide according to Claim 13 wherein the secretion pro sequence is an albumin secretion pro sequence or variant thereof.

15. (Withdrawn) A polypeptide according to Claim 14 wherein the albumin secretion pro sequence is human serum albumin secretion pro sequence or variant thereof.

16. (Withdrawn) A polypeptide according to Claim 15 wherein the secretion pro sequence motif is the yeast MF -1 secretion pro sequence or variant thereof.

17. (Withdrawn) A polypeptide according to Claim 12 comprising the sequence:

MKWVFIVSILFLFSSAYSRY^{1}Y^{2}Y^{3}Y^{4}Y^5

wherein Y^1 is Gly or Ser, Y^2 is Val or Leu, Y^3 is Phe or Asp, Y^4 is Arg or Lys and Y^5 is Arg or Lys, or variants thereof.

18. (Withdrawn) A polypeptide according to Claim 17 wherein Y^1 is Gly, Y^2 is Val and Y^3 is Phe; or Y^1 is Ser, Y^2 is Leu and Y^3 is Asp.

19. (Withdrawn) A polypeptide according to Claim 17 wherein Y^4 is Arg and Y^5 is Arg; Y^4 is Lys and Y^5 is Arg; Y^4 is Lys and Y^5 is Lys; or Y^4 is Arg and Y^5 is Lys.

20. (Previously presented) A polypeptide according to Claim 1 wherein at least part of said motif is present in the secretion pre-sequence.

21. (Previously presented) A polypeptide according to Claim 1 wherein the sequence of the desired protein is fused at its N-terminal end to the C-terminal amino acid of the leader sequence.

22. (Currently amended) A polypeptide according to Claim 1 wherein the mature desired protein is albumin or a variant, fragment or fusion thereof, wherein the variant comprises an amino acid sequence that is at least 90% identical to albumin.

23. (Original) A polypeptide according to Claim 22 wherein the albumin is human albumin.

24. (Previously presented) A polypeptide according to Claim 1 wherein the mature desired protein is transferrin or a variant, fragment or fusion thereof.

25. (Original) A polypeptide according to Claim 24 wherein the transferrin is human transferrin.

26. (Withdrawn) An isolated polynucleotide comprising a sequence that encodes the motif defined by Claim 1.

27. (Withdrawn) A polynucleotide according to Claim 26 comprising the sequence of SEQ ID No. 15.

28. (Withdrawn) A polynucleotide according to Claim 26 comprising the sequence of SEQ ID No. 16.

29. (Withdrawn) A polynucleotide according to Claim 26 comprising the sequence of SEQ ID No. 17.

30. (Withdrawn) A polynucleotide according to Claim 26 comprising the sequence of SEQ ID No. 18.

31. (Withdrawn) A polynucleotide according to Claim 26 comprising the sequence of SEQ ID No. 34.

32. (Withdrawn) A polynucleotide according to Claim 30 comprising the sequence of SEQ ID No. 24.

33. (Withdrawn) A polynucleotide according to Claim 32 comprising the sequence of SEQ ID No. 25 or a variant thereof, which variant has the leader sequence of SEQ ID No. 24 and encodes a variant or fragment of the albumin encoded by SEQ ID No. 25.

34. (Withdrawn) A polynucleotide according to Claim 30 comprising the sequence of SEQ ID No. 27.

35. (Withdrawn) A polynucleotide according to Claim 34 comprising the sequence of SEQ ID No. 21 or a variant thereof, which variant has the leader sequence of SEQ ID No. 27 and encodes a variant or fragment of the albumin encoded by SEQ ID No. 21.

36. (Withdrawn) A polynucleotide comprising the sequence of SEQ ID No. 21 or fragment thereof.

37. (Withdrawn) A polynucleotide according to any one of Claim 33 wherein the polynucleotide comprises a DNA sequence being a contiguous or non-contiguous fusion of a DNA sequence encoding a heterologous protein with either the DNA sequence SEQ ID No. 25 or the DNA sequence SEQ ID No. 21.

38. (Withdrawn) A polynucleotide which is the complementary strand of a polynucleotide according to Claim 26.

39. (Withdrawn) A polynucleotide according to Claim 26 comprising an operably linked transcription regulatory region.

40. (Withdrawn) A polynucleotide according to Claim 39 wherein the transcription regulatory region comprises a transcription promoter.

41. (Withdrawn) A self-replicable polynucleotide sequence comprising a polynucleotide according to Claim 26.

42. (Withdrawn) A cell comprising a polynucleotide according to Claim 26.

43. (Withdrawn) A cell according to Claim 42 which is a eukaryotic cell.

44. (Withdrawn) A cell according to Claim 43 which is a fungal cell.

45. (Withdrawn) A cell according to Claim 44 which is an *Aspergillus* cell.

46. (Withdrawn) A cell according to Claim 44 which is a yeast cell.

47. (Withdrawn) A cell according to Claim 46 which is a *Saccharomyces*, *Kluyveromyces*, *Schizosaccharomyces* or *Pichia* cell.

48. (Withdrawn) A cell culture comprising a cell according to Claim 42 and culture medium.

49. (Withdrawn) A cell culture according to Claim 48 wherein the medium contains a mature desired protein as a result of the production of a polypeptide as defined in Claim 1.

50. (Withdrawn) A process for producing a mature desired protein, comprising (1) culturing a cell according to Claim 42 in a culture medium wherein the cell, as a result of the production of a polypeptide as defined in Claim 1, secretes a mature desired protein into the culture medium, and (2) separating the culture medium, containing the secreted mature protein, from the cell.

51. (Withdrawn) A process according to Claim 50 additionally comprising the step of separating the mature desired protein from the medium.

52. (Withdrawn) A process according to Claim 51 additionally comprising the step of formulating the separated mature desired protein with a therapeutically acceptable carrier or diluent thereby to produce a therapeutic product suitable for administration to a human or an animal.

53. (Withdrawn) A polynucleotide according to any one of Claim 35 wherein the polynucleotide comprises a DNA sequence being a contiguous or non-contiguous fusion of a DNA sequence encoding a heterologous protein with either the DNA sequence SEQ ID No. 25 or the DNA sequence SEQ ID No. 21.

54. (Withdrawn) A polynucleotide according to any one of Claim 36 wherein the polynucleotide comprises a DNA sequence being a contiguous or non-contiguous fusion of a DNA sequence encoding a heterologous protein with either the DNA sequence SEQ ID No. 25 or the DNA sequence SEQ ID No. 21.

55. (Withdrawn) A process according to Claim 51 additionally comprising the step of further purifying the mature desired protein.

56. (Withdrawn) A process according to Claim 55 additionally comprising the step of formulating the thus separated and purified mature desired protein with a therapeutically acceptable carrier or diluent thereby to produce a therapeutic product suitable for administration to a human or an animal.

57. (Previously presented) A leader sequence for directing the secretion of proteins, said leader sequence comprising:

(a) a secretion pre sequence, and

(b) the following motif:

$-X_1-X_2-X_3-X_4-X_5-$

where X_1 is phenylalanine, tryptophan, or tyrosine, X_2 is isoleucine, leucine, valine, alanine or methionine, X_3 is leucine, valine, alanine or methionine, X_4 is serine or threonine and X_5 is isoleucine, valine, alanine or methionine.

58. (Previously presented) The leader sequence according to Claim 57 comprising the secretion pre sequence MKWVFIVSILFLFSSAYS (SEQ ID NO: 28).

59. (New) The polypeptide according to Claim 1 wherein the secretion pre sequence is a *S. cerevisiae* acid phosphatase protein secretion pre sequence or a variant thereof, wherein, other than the motif, the variant has at least 9 identical amino acids to the acid phosphatase protein secretion pre sequence.

60. (New) The polypeptide according to Claim 1 wherein the secretion pre sequence is a *S. cerevisiae* invertase protein secretion pre sequence or a variant thereof, wherein, other than the motif, the variant has at least 9 identical amino acids to the invertase protein secretion pre sequence.

61. (New) The polypeptide according to Claim 1 wherein the secretion pre sequence is a *S. cerevisiae* heat-shock protein-150 secretion pre sequence or a variant thereof, wherein, other than

the motif, the variant has at least 9 identical amino acids to the heat-shock protein-150 secretion pre sequence.

62. (New) The polypeptide according to Claim 1 wherein the secretion pre sequence is a *S. cerevisiae* mating factor alpha-1 protein secretion pre sequence or a variant thereof, wherein, other than the motif, the variant has at least 9 identical amino acids to the mating factor alpha-1 protein secretion pre sequence.

63. (New) The polypeptide according to Claim 1 wherein the secretion pre sequence is a human lysozyme secretion pre sequence or a variant thereof, wherein, other than the motif, the variant has at least 9 identical amino acids to the lysozyme secretion pre sequence.